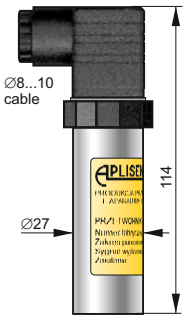
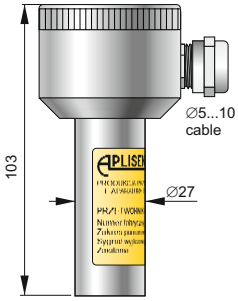
PRESSURE TRANSMITTER PCE-28

- ✓ **Any range from 0...25 mbar up to 0...1000 bar**
- ✓ **4 ÷ 20 mA two-wire or 0 ÷ 10 V output**
- ✓ **Intrinsic safety certificate (ATEX, IECEx)**
- ✓ **Marine certificate – DNV, BV**
- ✓ **Gold plated diaphragm**
- ✓ **SIL 1 certificate**
- ✓ **Version with local display**

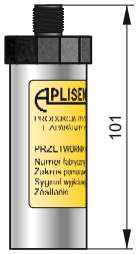
PD type
PD316 type
IP65



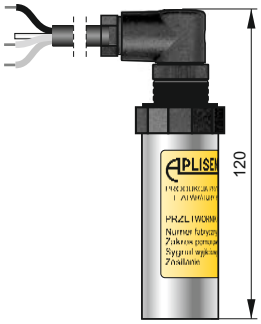
PZ type
IP66



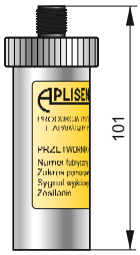
PM12 type
IP65



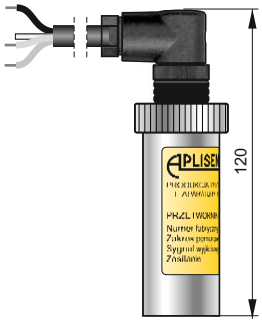
PM12K type
IP67



PM12S type
IP65

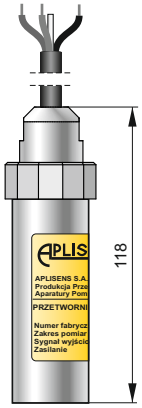


PM12SK type
IP67

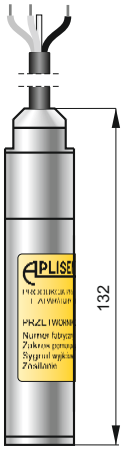


PKD type
IP67

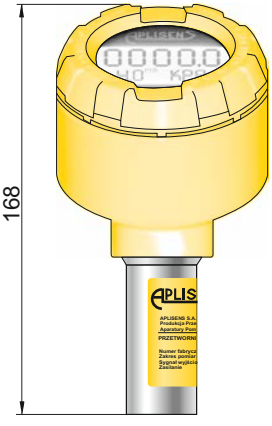
PK type
IP67



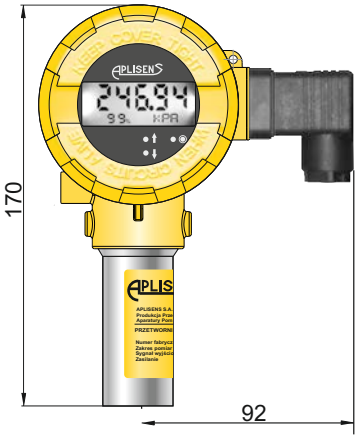
SG type
IP68

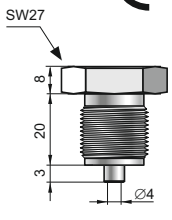


ALW type
IP65

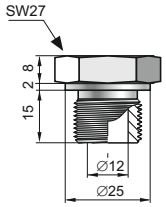


ALM type
IP65

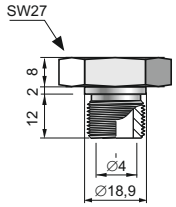




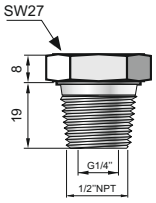
G1/2 type
G1/2″, ∅4 hole
M type
M20×1.5, ∅4 hole



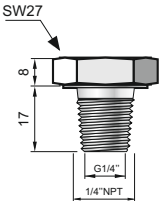
GP type
G1/2″, ∅12 hole
P type
M20×1.5, ∅12 hole



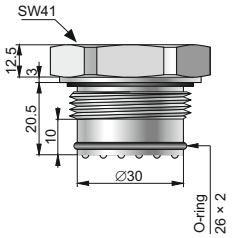
G1/4" type



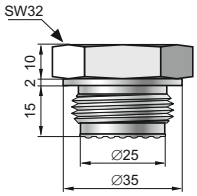
1/2"NPT type
1/2"NPT male +
internal thread G1/4"



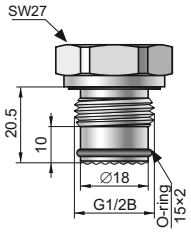
1/4"NPT type
1/4"NPT male +
internal ∅1/4"



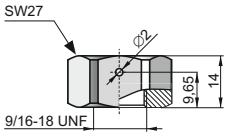
CG1 type
G1″ with flush
diaphragm



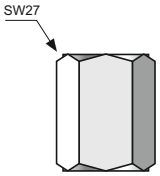
CM30×2 type
M30×2 with flush
Diaphragm



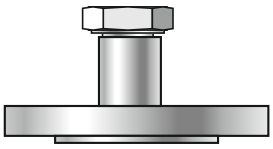
CG1/2 type
G1/2″ with
flush diaphragm
for P≤350bar



Autoclave
type F-250-C
(9/16-18 UNF)



1/2"NPT F type
internal thread
1/2-14NPT (adapter)



Version with direct
or remotediaphragm sea.
Diaphragm seal data -
see chapter III

Application and construction

The PCE-28 pressure transmitter is applicable to the measurement of the pressure, underpressure and absolute pressure of gases, vapours and liquids. The active sensing element is a piezoresistant silicon sensor separated from the medium by a diaphragm and by specially selected type of manometric liquid. The electronics is placed in a casing with a degree of protection from IP 65 to IP 68, depending on the type of electrical connection applied.

Calibration

Potentiometers can be used to shift the zero position and the range by up to ±10%, without altering the settings (not possible with ALM and SG casing).

Installation

The transmitter is not heavy, so it can be installed directly on the installation. When the pressure of steam or other hot media is measured, a siphon or impulse line should be used. The needle valve placed upstream the transmitter simplifies installation process and enables the zero point adjustment or the transmitter replacement.
When the special process connections are required for the measurement of levels and pressures (e.g. at food and chemical industries), the transmitter is provided with an Aplisens diaphragm seal. Installing accessories and a full scope of diaphragm seals are described in detail in the further part of the catalogue.

Measurements under explosion hazard

ATEX Intrinsic safety version is available for taking measurements in zones under explosion hazard. The installation of the transmitter in a zone under explosion hazard requires the use of a Ex power supply. We recommend the use of the Aplisens ZS-30/1Ex power supply and separator.

Technical data

Any measuring range 0...25 mbar ÷ 0...1000 bar (over pressure, under pressure); 400 mbar ÷ 80 bar (absolute pressure)
Measurement of lower pressure ranges, possible using transmitter PRE-50G with GP process connection.

	Measuring range				
	25 mbar	100 mbar	400 mbar	0…1 bar ÷ 160bar	0…160 bar ÷ 1000bar
Overpressure Limit (repeated, without hysteresis)	1 bar	1 bar	2,5 bar	4 x range	2 x range; max. 1200 bar
Damaging Overpressure	2 bar	2 bar	5 bar	8 x range; max. 2000 bar	
Accuracy	0,6%	0,3%	0,2% (0,16% - special version)		
Long term stability	0,6% / year	0,2% / year	0,1% / year		
Thermal error	Typically 0,5% / 10°C Max 0,6% / 10°C	Typically 0,3% / 10°C Max 0,4% / 10°C		Typically 0,2% / 10°C Max 0,3% / 10°C	

Hysteresis, repeatability	0,05%
Response time	< 120 ms version TR: < 30 ms
Thermal compensation range	-10...80°C
Operating temperature range (ambient temp.)	-40...80°C
Medium temperature range	-40...130°C

over 130°C – measurement with use an impulse line or diaphragm seals

CAUTION: the medium must not be allowed to freeze in the impulse line or close to the process connection of the transmitter

Output signal	4...20 mA, two wire transmission 0..10V
Material of wetted parts	316Lss, Hastelloy C 276, Au
Material of casing	304ss, 316Lss
Power supply	output 4..20mA 8…36 V DC (Ex 9...28 V DC) version TR, version Safety: 10,5…36 V DC (Ex 12...28 V DC) ALW and ALM version: (11…36V DC) output 0..10V 13…30 VDC
Error due to supply voltage changes	0,005%/ V
Load resistance	$R[\Omega] \leq \frac{U_{sup}[V] - 8V}{0{,}02A}$

Ordering procedure

Model	Code	Description
PCE-28		Pressure transmitter
Versions, certificates	/Exia	II 1/2G Ex ia IIC T4/T5/T6 Ga/Gb II 1D Ex ia IIIC T135°C Da I M1 Ex ia I Ma **IECEx** Ex ia IIC T4/T5/T6 Ga/Gb Ex ia IIIC T135°C Da Ex ia I Ma Only for transmitters with 4…20mA output For PM12, PKD version: II 1/2G Ex ia IIC T4/T5/T6 Ga/Gb **IECEx** Ex ia IIC T4/T5/T6 Ga/Gb For ALW, ALM version: II 1/2G Ex ia IIC T4 Ga/Gb II 1D Ex ia IIIC T135°C Da **IECEx** Ex ia IIC T4 Ga/Gb Ex ia IIIC T135°C Da
	/MR	Marine certificate – DNV, BV (not available in ALW, ALM version)
	/Tlen	For oxygen service (sensor filled with non-reactive fluid), only G1/2" connection
	/PED	PED, category I
	/0,16%	Accuracy <0,16% (available for ranges >400mbar)
more than one option is available	/Safety	SIL 1 certificate; only 4…20mA output
	/TR	Response time <30ms; only 4…20mA output, only PD, PZ, PM12, PK version.
	/NACE	NACE MR-01-75 certificate (process connections: M, G1/2", P, GP and 1/2"NPTM)
Measuring range	/…÷… [required units]	Measuring range
Analogue output signal	*(without marking)*	4...20mA / power supply 8...36VDC (Ex 9…28VDC)
	/0÷10V	0...10VDC /power supply 13...30VDC (Exia version available as model PCE-29A/B)
Casing, electrical connection	/PD	304SS housing, IP65, DIN EN 175301-803 connector
	/PD316	316SS housing, IP65, DIN EN 175301-803 connector
	/PZ	304SS housing, IP66, packing gland M20x1,5
	/PM12	304SS housing, IP65 with thread M12x1
	/PM12K	304SS housing, IP67 with thread M12x1 and connector with cable (3 m in standard)
	/PM12S	304SS housing, IP65 with thread M12x1, stainless steel version
	/PM12SK	304SS housing, IP67 with thread M12x1 and connector with cable (3 m in standard), stainless steel version
	/PK	304SS housing, IP67, cable electrical connection (3 m of cable in standard)
	/PK (ETFE)	304SS housing, IP67, cable electrical connection (3 m of ETFE cable in standard)
	/PKD	304SS housing, IP67, cable electrical connection (3 m of cable in standard)
	/SG	316LSS housing, IP68, cable electrical connection (3 m of cable in standard)
	/SGM	316LSS housing, IP68, cable electrical connection (3 m of cable in standard)
	/ALW *	Aluminum housing, local display, IP65, DIN43650 connector (4…20mA version only)
	/ALM *	Aluminum housing, local display, IP65, DIN43650 connector (4…20mA version only)
Process connections	/M	Thread M20x1,5 (male) with ∅4 hole, wetted parts SS316L
	/G1/2	Thread G1/2'' (male) with ∅4 hole, wetted parts SS316L
	/G1/2(Au)	Thread G1/2'' (male) with ∅4 hole, gold plated diaphragm** (Pressure limits: min. 10bar / max. 1000bar)
	/G1/4	Thread G1/4'' (male), wetted parts SS316L (Pressure limits: min: 1bar / max. 400bar)
	/P	Thread M20x1,5 (male) with ∅12 hole, wetted parts SS316L
	/GP	Thread G1/2'' (male) with ∅12 hole, wetted parts SS316L
	/GP(Hastelloy)	Thread G1/2'' (male) with ∅12 hole, wetted parts Hastelloy C 276 Pressure limits: max. 350bar
	/CM30x2	Thread M30x2 with flush diaphragm, wetted parts SS316L (Pressure limits: min. 0,25bar / max. 70bar)
	/CM30x2(Hastelloy)	Thread M30x2 with flush diaphragm, wetted parts Hastelloy C 276 (Pressure limits: min. 0,25bar / max. 70bar)
	/CG1"	Thread G1'' with flush diaphragm, wetted parts SS316L (Pressure limits: min. 0,1bar / max. 70bar) (Max medium temperature continuous/instantaneous 100/130°C)
	/CG1"(Hastelloy)	Thread G1'' with flush diaphragm, wetted parts Hastelloy C 276 (Pressure limits: min. 0,1bar / max. 70bar)
	/CG1/2"	Thread G1/2'' with flush diaphragm, wetted parts SS316L (Pressure limits: min. 2,5bar / max. 350bar) (Max medium temperature continuous/instantaneous 100/130°C)
	/1/2"NPTM	Thread 1/2''NPT Male, G1/4" Female, wetted parts SS316L (Pressure limits: ˝ "NPT Male max. 690bar, G1/4" Female max. 1000bar)
	/1/4"NPTM	Thread 1/4''NPT Male with ∅4 hole, wetted parts SS316L (Pressure limits: min: 0,1bar / max. 400 bar)
	/1/2"NPTF	Thread M20x1,5 with adapter to 1/2"NPT Female, wetted parts SS316L (Pressure limits: max. 690bar)
	/Autoclave	Compatible with Autoclave type F-250-C Pressure limits: min. 400bar / max. 1000bar
	/code of diaphragm seal…	Diaphragm seal (see chapter of diaphragm seals)
Accessories	/MT	Stainless Steel Tag plate mounted on wire
	/PT	TAG sticker on transmitter's body
	/PC	Mounting bracket PC type for fitting on a wall
	/PCR	Mounting bracket PC type for for fitting on a 2" pipe

* pushbuttons allows to change display settings only, version ALM without Zero and Span potentiometers

** Gold plating is dedicated to measuring the pressure of hydrogen and gaseous media with hydrogen admixture for measurement ranges above 70 bar